auto focus if necessary.

Please replace the paragraph at page 40, lines 5-11, as follows:

Although in the above embodiment the present invention is used in the semiconductor chip inspection device, the present invention can be applied not only in the semiconductor chip inspection device but also in a mask or reticle inspection device, or an inspection device of a print base or a liquid crystal base and so on.

IN THE CLAIMS

Please cancel claims 5, 12, and 19 without prejudice.

Please amend claims 1, 8, and 15 to read as follows:

1. (Amended) A pattern inspection method comprising:

acquiring difference data by subtracting a real pattern window having real pattern data corresponding to predetermined pixels of the real pattern data obtained by imaging an inspection object from a design pattern window corresponding to the real pattern window and shift design pattern windows which are obtained by shifting the design pattern windows in a plurality of directions, respectively, wherein a shift width of the shifted design pattern windows is within one pixel:

selecting one window from the design pattern window and shift design pattern windows such that the selected one window has a minimum difference data; and

performing a pattern inspection of the inspection object based on a difference value between the selected one window and the real pattern window.

8. (Amended) A pattern inspection device comprising:

means for acquiring difference data by subtracting a real pattern window having real pattern data corresponding to predetermined pixels of the real pattern data obtained by imaging an inspection object from a design pattern window corresponding to the real pattern window and shift design pattern windows which are obtained by shifting the design pattern windows in a plurality of directions, respectively;

means for selecting one window from the design pattern window and shift design pattern windows such that the selected one window has a minimum difference data, wherein a shift width of the shifted design pattern windows is within one pixel; and

means for performing a pattern inspection of the inspection object based on a difference value between the selected one window and the real pattern window.

15. (Amended) A method of manufacturing a mask comprising:

preparing a substrate with a light shielding film on which a mask pattern is formed; and

inspecting the substrate with the light shielding film on which a mask pattern is formed,

wherein the inspecting step comprises:

acquiring difference data by subtracting a real pattern window having real pattern data corresponding to predetermined pixels of the real pattern data obtained by imaging the mask pattern from a design pattern window corresponding to the real pattern window and shift design pattern windows which are obtained by shifting the design pattern windows in a plurality of directions, respectively, wherein a shift width of the shifted design pattern windows is within one pixel;

selecting one window from the design pattern window and shift design pattern windows such that the selected one window has a minimum difference data; and

performing a pattern inspection of the mask pattern based on a difference value between the selected one window and the real pattern window.

Please add new claims 21-31 as follows:

21. (New) A pattern inspection apparatus comprising:

an image device to which an image of an inspection object is input and from which an inspection pattern data of the input image is output, which is digitalized for each of pixels;

a memory storing the inspection pattern data output from the image device;

means for extracting an inspection pattern data window with a noticed pixel located at a center, from the inspection pattern data stored to inspect a part of the inspection object;

means for extracting a non-defective pattern data window with the noticed pixel located at the center, from a non-defective pattern data;

means for generating a non-defective pattern data window located at a position that is shifted from the noticed pixel by a width smaller than one pixel, based on the extracted non-defective pattern data window; and

means for comparing the extracted inspection pattern data window with the generated non-defective pattern data window, thereby inspecting the part of the inspection object.

22. (New) The apparatus according to claim 21, further comprising means for comparing the extracted inspection pattern data window with the extracted non-defective pattern data window, thereby inspecting the part of the inspection object.

23. (New) The apparatus according to claim 21, wherein the comparing means comprises:

means for obtaining a difference value between the noticed pixel of the extracted inspection pattern data window and a pixel located at a center of the generated non-effective pattern data window; and

means for determining a defect of the inspection object by comparing the obtained difference value with a threshold value set in advance.

24. (New) The apparatus according to claim 23, wherein the difference value is determined based on a lightness of the noticed pixel in the extracted inspection pattern data window and a lightness of the pixel located at the center of the generated non-effective pattern data window.

25. (New) A pattern inspection apparatus comprising:

an image device to which an image of an inspection object is input and from which an inspection pattern data, which is digitalized for each of pixels, of the input image is output;

a memory storing the inspection pattern data output from the image device;

means for extracting an inspection pattern data window with a noticed pixel located at a center, from the inspection pattern data stored to inspect a part of the inspection object;

means for extracting a design pattern data window with the noticed pixel located at the center, from a design pattern data;

means for generating a design pattern data window located at a position that is shifted from the noticed pixel by a width smaller than one pixel, based on the extracted design pattern data window; and

means for comparing the extracted inspection pattern data window with the generated design pattern data window, thereby inspecting the part of the inspection object.

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26. (New) The apparatus according to claim 25, further comprising means for comparing the extracted inspection pattern data window with the extracted design pattern data window, thereby inspecting the part of the inspection object.

27. (New) The apparatus according to claim 21, wherein the comparing means comprises:

means for obtaining a difference value between the noticed pixel of the extracted inspection pattern data window and a pixel located at a center of the generated design pattern data window; and

means for determining a defect of the inspection object by comparing the obtained difference value with a threshold value set in advance.

28. (New) The apparatus according to claim 27, wherein the difference value is determined based on a lightness of the noticed pixel in the extracted inspection pattern data window and a lightness of the pixel located at the center of the generated design pattern data window.

29. (New) A pattern inspection apparatus comprising:

an image device to which an image of an inspection object is input and from which an inspection pattern data of the input image is output, which is digitalized for each of pixels;

a memory storing the inspection pattern data output from the image device;

a section which extracts an inspection pattern data window with a noticed pixel located at a center, from the inspection pattern data stored to inspect a part of the inspection object;

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a section which extracts a non-defective pattern data window with the noticed pixel located at the center, from a non-defective pattern data;

a section which generates a non-defective pattern data window located at a position that is shifted from the noticed pixel by a width smaller than one pixel, based on the extracted non-defective pattern data window; and

a section which compares the extracted inspection pattern data window with the generated non-defective pattern data window, thereby inspecting the part of the inspection object.

30. (New) A method of inspecting a pattern of an inspecting object, comprising:

inputting an image of the inspecting object to an image device;

outputting an inspection pattern data of the input image from the image device, which is digitalized for each of pixels;

storing the inspection pattern data output from the image device in a memory;

extracting an inspection pattern data window with a noticed pixel located at a center, from the inspection pattern data stored to inspect a part of the inspection object;

extracting a non-defective pattern data window with the noticed pixel located at the center, from a non-defective pattern data;

generating a non-defective pattern data window located at a position that is shifted from the noticed pixel by a width smaller than one pixel, based on the extracted non-defective pattern data window; and

comparing the extracted inspection pattern data window with the generated non-defective pattern data window, thereby inspecting the part of the inspection object.

31. (New) A method of manufacturing a mask comprising:

preparing a substrate with a light shielding film on which a mask pattern is formed; and

inspecting the substrate with the light shielding film on which the mask pattern is formed,

wherein the inspecting step comprises:

inputting an image of the mask pattern to an image device;

outputting an inspection pattern data of the input image from the image device, which is digitalized for each of pixels;

storing the inspection pattern data output from the image device in a memory;

extracting an inspection pattern data window with a noticed pixel located at a center, from the inspection pattern data stored to inspect a part of the inspection object;

extracting a non-defective pattern data window with the noticed pixel located at the center, from a non-defective pattern data;

generating a non-defective pattern data window located at a position that is shifted from the noticed pixel by a width smaller than one pixel, based on the extracted non-defective pattern data window; and

comparing the extracted inspection pattern data window with the generated non-defective pattern data window, thereby inspecting the part of the inspection object.

IN THE ABSTRACT

Please amend the Abstract on page 51 to read as follows:

ABSTRACT OF THE DISCLOSURE

The difference data between the real pattern data Sij, and a 5 x 5 window with a noticed pixel in the center and the design pattern data Rij obtained by the design pattern data of the window being shifted in a plurality of directions with respect to the design pattern data

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